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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,788	01/11/2005	Stephen Roland Day	021500-134	2434

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EXAMINER

RALIS, STEPHEN J

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/520,788	Applicant(s) DAY, STEPHEN ROLAND	
	Examiner Stephen J. Ralis	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant is notified of receipt and acknowledgement, on 19 July 2006, of the amendments to Application No. 10/520,788, filed on 11 January 2005.

Allowable Subject Matter

2. The indicated allowability of claims 15-18 is withdrawn in view of the newly discovered reference(s) to Baldridge (U.S. Patent No. 3,317,906), Fraivillig (U.S. Patent No. 6,208,031), Ladd (U.S. Patent No. 2001/0055458) and Leclercq (U.S. Patent No. 4,968,895). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1, 2, 9-11, 13, 14, 16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldridge (U.S. Patent No. 3,317,906) in view of Naruke et al. (U.S. Patent No. 5,193,895).

Baldridge discloses a laminated glazing panel and process for the production thereof comprising two glass plies, a plastic ply and one or more lights which are laminated between the glass plies (column 2, lines 16-39, column 3, lines 7-51; see Figure 1).

The claims differ from Baldridge in calling for the lights to be light emitting diodes and light emitting diodes being mounted on a flexible circuit board. However, indicator light emitting diodes mounted on flexible circuit boards, as described by Naruke et al., is known in the art. Naruke et al. teach a light body comprising light emitting elements (5) mounted on a flexible circuit board (6; a flexible circuit board inherently has a substrate and a conductive layer) residing in a body of synthetic resin (synthetic resin predominantly being of the plastics family) to provide (1) a reduction in the power consumption of traditional lamp elements, thereby increasing the prolonged life of a power source (column 5, lines 44-47); and to provide (2) the advantage that a lighting system may conform to the shape and size of the fitting face of the desired surface, thereby reducing the overall cost of manufacturing (column 5, lines 51-59). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Baldridge with the light emitting diodes mounted on flexible circuit boards of Naruke et al. to provide (1) a reduction in the power consumption of traditional

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lamp elements, thereby increasing the prolonged life of a power source (column 5, lines 44-47); and (2) the advantage that a lighting system may conform to the shape and size of the fitting face of the desired surface, thereby reducing the overall cost of manufacturing.

With respect to the limitations of claims 9-11 and 16, Baldridge further disclose indicia on at least one ply (column 3, lines 41-60); a cut-out in the plastic ply to aid successful lamination of larger components in the glazing panel (26; column 3, lines 27-29); multiple plastic plies may be used to laminate the one or more light indicators in the glazing panel (column 3, lines 29-30).

With respect to the limitation of claim 13, the Baldridge-Naruke laminating glazing panel combination discloses all of the limitations, as described in claim 1 of above, except for the plastic ply having a thickness before lamination of 2 mm or less. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the plastic ply having a thickness before lamination of 2 mm or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

With respect to the limitation of claim 14, the Baldridge-Naruke laminating glazing panel combination discloses all of the limitations, as described in claim 1 of above, except for the thickness of the panel being 8 mm or less. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the thickness of the panel being 8 mm or less, since it has been held that where the general

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conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

With respect to claim 18, the Baldridge-Naruke process for the production of a laminated glazing panel combination discloses all of the limitations, as described in claim 15 of above, except for the overall thickness of the coated circuit board on which one or more light emitting elements are mounted being comparable with the thickness of the plastic ply in which it is positioned. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the overall thickness of the coated circuit board on which one or more light emitting elements are mounted being comparable with the thickness of the plastic ply in which it is positioned, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

6. Claims 3-5, 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldridge (U.S. Patent No. 3,317,906) in view of Naruke et al. (U.S. Patent No. 5,193,895) as applied to claim 2 above, and further in view of Fraivillig (U.S. Patent No. 6,208,031).

The Baldridge-Naruke laminating glazing panel combination discloses all of the limitations, as described in claim 2 of above, except for the substrate comprising polyimide; the substrate comprising polyester; and the conductive layer being a metal foil which is adhered to the substrate; the flexible circuit board further comprising a rigid layer. However, flexible circuit boards having a substrate comprising polyimide or

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polyester, a conductive layer being a metal foil which is adhered to the substrate, and a rigid layer, as described by Fraivillig, is known in the art. Fraivillig teaches a flexible circuit board comprising a conductive foil layer that is adhered to a flexible base film that is typically a polyimide or polyester film (column 1, lines 26-31; column 3, lines 6-10; column 4, lines 22-31) to provide a flexible circuit that is not limited by the typical thickness of traditional dielectric films (column 2, lines 1-4), thereby producing a thinner more desirable a flexible circuit board. Fraivillig further teaches that the flexible circuit board may comprise a rigid layer (the addition of a thermoset would inherently create a harder/rigid layer; column 4, lines 27-31). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Baldridge-Naruke laminating glazing panel combination with the flexible circuit board substrate and conductive layers of Fraivillig to provide a flexible circuit that is not limited by the typical thickness of traditional dielectric films, thereby producing a thinner more desirable a flexible circuit board.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baldridge (U.S. Patent No. 3,317,906) in view of Naruke et al. (U.S. Patent No. 5,193,895) as applied to claim 2 above, and further in view of Ladd (U.S. Patent No. 2001/0055458).

The Baldridge-Naruke laminating glazing panel combination discloses all of the limitations, as described in claim 2 of above, except for the conductive layer being conductive ink which is in direct contact with the substrate. However, creating a light emitting display using a conductive ink as the conductive layer, as described by Ladd, is

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known in the art. Ladd teaches a broad surface (12) of sheet (10) of electrically insulating material having grooves 14 that are filled with a highly electrically conductive ink to provide a display that is uniformly constructed, efficient to manufacture without getting the typical defects, thereby reducing typical scrap costs of manufacturing the display devices. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Baldridge-Naruke laminating glazing panel combination with conductive ink layer of the Ladd light emitting display device to provide a display that is uniformly constructed, efficient to manufacture without getting the typical defects, thereby reducing typical scrap costs of manufacturing the display devices.

8. Claim 8, 12, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldridge (U.S. Patent No. 3,317,906) in view of Naruke et al. (U.S. Patent No. 5,193,895) as applied to claim 2, 11 and 16 above, and further in view of Leclercq (U.S. Patent No. 4,968,895).

The Baldridge-Naruke laminating glazing panel combination discloses all of the limitations, as described in claim 2, 11 and 16 of above, except for the flexible circuit board extending outwardly beyond an edge of the glazing panel to enable connection of the circuit board to a power supply; and the light indicators to be coated with a compatible material of the plastic ply. However, flexible circuit board extending outwardly beyond an edge of the glazing panel to enable connection of the circuit board to a power supply and the light indicators to be coated with a compatible material of the

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plastic ply, as described by Leclercq, is known in the art. Leclercq teaches a diode (1) laminated between to glass plies (6) with a plastic ply (5) between. Leclercq also teaches a flexible circuit board (4) having conductors (3) embedded within a layer of plastic (column 2, lines 58-61; see Figure 1) for connecting to a power supply to provide the conductors with the flexibility needed during installation of the diode device, thereby simplifying the manufacturing process. Leclercq further teaches the diode (1) within the laminated glass being coated with a compatible material of the plastic ply within the laminated glass (column 2, lines 46-49) to provide stiffness adequate to avoid any deformation when it is laminated in the glass, thereby increasing the operational longevity of the device. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the flexible circuit board of the Baldrige-Naruke laminating glazing panel combination with the extension from the glass structure to connect to a power supply of Leclercq to provide the conductors with the flexibility needed during installation of the diode device, thereby simplifying the manufacturing process. It would have further been obvious to one of ordinary skill in the art at the time of the invention was made to modify the plastic/synthetic resin covering of the light emitting element of Baldrige-Naruke laminating glazing panel combination with the device within the laminated glass being coated with a compatible material of the plastic ply within the laminated glass of Leclercq to provide stiffness adequate to avoid any deformation when it is laminated in the glass, thereby increasing the operational longevity of the device.

Response to Arguments

9. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

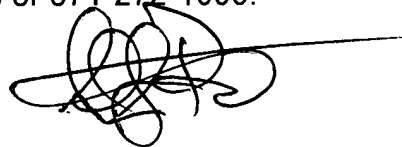
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Stephen J Ralis
Examiner
Art Unit 3742

SJR
October 28, 2006



ROBIN EVANS
SUPERVISORY PATENT EXAMINER

10/30/06